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REPORT NO. 11

U.S. DEPT.
AGRICULTURE

Cotton Fiber and Processing Test Results

CROP OF

1973



Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
Memphis, Tenn. 38122 January 18, 1974

This is the eleventh of a series of reports of fiber and processing test results from the 1973 cotton crop. Subsequent reports in this series will follow at approximately two-week intervals during the harvesting season, and will be summarized in a comprehensive report at the end of the season. This series will present data on the same subject as "Summary of Cotton Fiber and Processing Test Results, Crop of 1972", May 1973. The summary also includes a detailed description of the tests published in these reports. These reports are available on request from the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, 4841 Summer Avenue, Memphis, Tn. 38122.

NOTICE

Effective immediately, mailing address as well as shipping address for all Cotton Division offices and sections in Memphis, Tennessee, is:

4841 Summer Avenue
Memphis, Tn. 38122

COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1973

Discussion of Test Results

Cotton testing laboratories of the Agricultural Marketing Service, USDA, report that fibers from the Southwest short staple samples tested, to date, are coarser and stronger than through the same period a year ago. Yarns spun from these samples are weaker with lower appearance grades than a year ago. Yarn imperfections were fewer in samples tested to date. Average spinning potential yarn number is lower.

Averages for all medium staple samples tested through January 11 show slightly weaker fiber than a year ago. Yarns spun from these samples show lower appearance grades.

Medium staple samples tested from the Southeast show coarser and weaker fiber at 1/8" gage tests. Shirley Analyzer nonlint content is higher than a year ago. More yarn imperfections were noted as compared with a year ago. Spinning potential number is lower.

Medium staple samples from the South Central belt show longer, coarser and weaker fibers than a year ago. Yarns spun from these samples show about the same average results as a year ago at this time except the spinning potential number is lower.

Southwest medium staple samples show approximately the same fiber test results as samples of a year ago. Picker and card waste is less. Yarns spun from these samples show lower appearance grades and a lower spinning potential number.

Medium staple samples from the West show fibers to be longer and stronger at both zero and 1/8 inch gage. Yarns spun from these samples are stronger. The appearance index is lower than a year ago.

Averages for all long staple samples tested, to date, are coarser and weaker than a year ago. Yarns spun from these samples show higher appearance grades and fewer imperfections. Average spinning potential yarn number is lower.

Southeast long staple samples tested show coarser and weaker fiber than last season. Yarns spun are weaker than a year ago. Appearance grades are higher and imperfections are fewer than last season. Spinning potential is lower.

South Central long staple samples tested show shorter, coarser and weaker fiber than last season. Comber waste is higher. Yarn strength is weaker, while appearance grades are higher than a year ago. Yarn imperfections are fewer for the combed yarns. Spinning potential is lower than last season.

Long staple samples from the West show shorter and stronger fiber than last season. Yarn strength is stronger and the appearance index is higher than a year ago. Yarn imperfections are fewer than last season and the average spinning potential number is higher.

Extra long staple American Pima samples from the West show fiber longer, coarser and stronger than a year ago. Comber waste is higher. Combed yarn strength is stronger than last season. Yarn appearance grades are higher while yarn imperfections are more than a year ago.

Table 1.--Cotton:

Averages of fiber and processing tests from selected gin points in the United States through January 11, 1974

1/

Staple group Area, and Crop year	Lots tested	No.	Fiber test results						Processing test results						
			Fibrograph		Mike fine- ness		Fiber strength Zero gage		S A nonlint gage		P & C waste		Yarn quality		
			2.5% span	50/2.5 unif.	Rdg.	Pct.	Mpsi	G/tex	Pct.	Pct.	Lbs.	Index	22s Carded Yarn	No.	
<u>Short Staple:</u>															
Southwest			.97	45	4.2	81	21	3.6	6.5	94	104	105	108	117	27
1972	44	46	.97	46	4.5	83	21	3.3	6.3	91	101	107	108	108	16
1973	60														
Medium Staple:															
Southeast															
1972	60	1.08	45	4.3	83	23	3.0	6.1	104	104	105	105	105	16	66
1973	54	1.08	46	4.5	82	22	3.6	6.0	101	101	107	107	107	21	61
South Central															
1972	160	1.08	45	4.3	83	23	2.8	6.2	102	102	109	109	109	19	64
1973	165	1.10	45	4.5	81	22	3.1	5.8	101	101	107	107	107	19	61
Southwest															
1972	42	1.06	45	4.2	83	22	3.3	6.4	101	101	118	118	118	24	61
1973	50	1.07	45	4.3	82	22	3.0	5.7	98	98	97	97	97	23	56
West															
1972	60	1.09	45	4.4	90	24	2.6	5.5	110	110	121	121	121	17	66
1973	67	1.12	46	4.4	93	25	2.4	5.3	117	117	102	102	102	17	68
U. S. Average															
1972	322	1.08	45	4.3	85	23	2.9	6.0	104	104	113	113	113	19	64
1973	336	1.09	45	4.4	84	22	3.0	5.7	104	104	104	104	104	20	62
Significant difference 2/			0.02	2	0.2	2	1	0.5	0.5	0.5	4(22s)	5	2	3	

1/ Based on a limited number of samples of modal quality
 2/ Minimum differences considered to be significant for comparisons in this table. These guides are based upon averages of a number of lots and are not applicable to individual samples.

Table 1.--Cotton:

Averages of fiber and processing tests from selected gin points in the United States through January 11, 1974
1/ (Continued)

Staple group, Area, and Crop year	Lots	Fiber Test Results						Processing Test Results								
		Span	Length	Strength	Mike Zero gage	1/8" gage	SA lint	P&C Waste	Comber Waste	Yarn Quality		Imprfctns				
				Unif.						carded	combed	carded	combed			
No.	No.	In.	Pct.	Rdg.	Mpsi	G/tx	Pct.	Pct.	Pct.	Lbs. 22s	Lbs. Carded & Combed	Indx	No.	No.		
<u>Long Staple:</u>																
Southwest																
1972	19	1.12	44	4.3	85	24	3.6	8.5	16.9	107	123	102	117	24	10	68
1973	17	1.12	45	4.6	82	23	3.9	8.6	17.0	103	119	117	124	14	7	65
South Central																
1972	4	1.16	44	4.0	88	24	4.2	8.8	16.0	116	131	100	110	20	11	75
1973	6	1.14	44	4.3	86	24	3.8	8.8	17.3	108	126	117	127	19	8	64
West																
1972	15	1.17	44	3.6	91	25	2.5	7.2	15.6	126	145	91	100	26	13	86
1973	14	1.15	45	3.6	92	27	2.6	7.6	15.4	134	152	95	106	18	10	90
U. S. Average																
1972	38	1.14	44	4.0	88	24	3.3	8.0	16.3	116	133	97	109	24	11	76
1973	37	1.14	45	4.2	86	24	3.4	8.2	16.4	116	133	109	118	17	9	74
<u>Array</u>																
<u>American Pima</u>																
<u>Extra Long Staple:</u>																
West																
1972	20	1.44	32	3.6	97	32	2.6	7.8	17.7	63	113	3				
1973	16	1.46	31	3.8	101	33	3.3	8.0	18.4	67	122	9				
<u>Significant Difference 2/</u>																
	0.02	2	0.2	2	1	0.5	0.5	0.5	4(22s)	4(22s)	2(50s)	5	5	2	2	3

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table. These guides are based upon averages of a number of lots and are not applicable to individual samples.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1973

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973

Production Area, Classification			Fiber Test Results								Processing Test Results - Carded Yarns									
Sample Number			Digital Fibrograph		Fiber Strength		S.A. Non-Lint		Color Stock		P & C Waste		Elongation		Appearance Index		Imperfect's		Spin. Potential	
No	Grade	Name & Code	Stple 2.5% span	Unif.	Mike Zero Gage	1/8" Gage	Gra	Yel	No	No	27 tx	27 tx	22s or 50s or 27 tx	No	No	No	No			
			32s	In	Pct	Rds	Mpsi	G/tex	Pct	Pct	Pct	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No
SOUTHEAST AREA																				
ALABAMA GREENBRIER	51	33	1.04	46	4.0	80	22	7.9	3.8	2	3	4.8	100	98 PERCENT	5.0	100	70	29	23	59
HARPERSVILLE	3 SLM	33	1.04	46	4.4	87	22	6.8	2.8	2	2	4.0	98	90 PERCENT	4.3	100	70	16	12	54
GEORGIA DAWSON	51	33	1.11	43	4.7	78	22	6.6	4.1	3	2	5.4	91	70 PERCENT	4.5	100	70	23	19	51
REYNOLDS	3 LM	34	1.08	43	4.4	80	22	6.8	2.7	3	2	6.2	92	100 PERCENT	4.3	90	70	33	21	53
SOUTH CENTRAL AREA																				
LOUISIANA ALEXANDRIA	3 LM	34	1.07	43	4.6	77	20	6.8	2.4	4	3	4.8	77	75 PERCENT	3.9	90	60	26	29	44
LAKE PROVIDENCE	3 SLM	35	1.13	45	4.2	79	21	8.0	3.3	2	2	3.9	109	100 PERCENT	5.3	80	70	21	20	68
MONROE	3 SLM LT SP	42	35	1.14	44	4.5	77	21	7.3	2.6	3	4.7	93	100 PERCENT	4.4	90	60	30	26	58
OAK GROVE	3 SLM LT SP	42	34	1.08	44	4.0	83	21	7.6	2.4	3	3.4	101	100 PERCENT	4.6	120	90	14	11	56
MISSISSIPPI LAKE CORMORANT	3 SLM	36	1.13	44	4.2	78	21	8.7	2.8	1	2	5.2	102	100 PERCENT	4.9	100	80	11	9	61
PANTHER BURN	3 LM	35	1.14	44	3.8	76	21	8.1	5.1	2	1	5.0	109	100 PERCENT	5.4	90	70	20	15	66

Table 3--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973--(Continued)

Production Area, Classification Sample Number			Fiber Test Results								Processing Test Results - Carded Yarns								
No	Grade	Name & Code	Digital Fibrograph	Fiber Strength	S.A. Elong. 1/8"	Color Raw Stock	P & C Waste	Strength	Elongation	Appearance Index	Imperfect's 22s or 50s or 27 tx	Imperfect's 50s or 22s or 27 tx	Spin- Potential						
			Stple 2.5% span	Unif. span	Mike Zero Gage	Non- Lint Gra Yel													
32s	In	Pct	RdE	Msi	G/text	Pct	Pct	No	No	Pct	Ibs	Ibs	Pct	No	No	No	No	No	
SOUTHWEST AREA																			
NORTHWEST TEXAS																			
3 SLM	41	33	1.04	4.7	3.9	92	24	6.1	2.3	1	3	5.9	111	35	6.3	4.6	80	70	
LUBBOCK	3 SLM	41	34	1.07	4.4	4.2	83	23	7.1	4.5	1	3	5.2	91	27	5.8	4.5	80	70
O'DONNELL	3 MID LT SP	32	31	1.03	4.2	3.6	78	22	7.0	3.3	3	3	6.4	91	25	6.2	4.2	70	60
RAYLAND	2 SLM	41	33	1.08	4.5	4.6	85	24	6.4	4.7	2	3	6.6	1/ 109	36	6.7	4.9	90	80
ROPESVILLE	3 MID	31	32	1.07	4.5	3.4	86	23	6.9	3.9	1	3	4.7	106	32	6.7	4.6	100	80
VERNON	2 SLM LT SP	42	33	1.08	4.3	4.3	82	22	7.0	4.7	3	4	5.9	102	31	6.6	4.6	100	70
WELCH	2 SLM	41	32	1.03	4.5	4.0	83	21	6.9	3.6	1	3	6.1	1/ 98	28	6.4	4.8	90	70
OKLAHOMA WEBBERS FALLS																			
3 SLM	41	36	1.16	4.4	3.8	80	22	8.5	4.2	2	2	5.7	107	35	7.7	5.4	100	70	
WEST AREA																			
ARIZONA BOWIE	3 MID	31	35	1.10	4.5	3.9	78	22	7.3	2.6	0	3	4.6	1/ 105	32	6.6	4.7	110	80
BUCKEYE	3 MID	31	35	1.08	4.4	4.7	95	23	5.8	3.2	0	3	6.8	93	27	5.7	3.9	110	80
PARKER	3 MID	31	35	1.10	4.4	4.0	84	23	7.1	2.9	0	2	4.5	1/ 103	32	6.8	4.6	100	80
SELMA	3 MID	31	35	1.10	4.2	3.5	83	21	7.4	4.2	0	2	4.5	1/ 109	35	6.9	5.1	100	70

1/ Cotton stuck to processing rolls

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973--(Continued)

Production Area, Classification & Sample Number		Fiber Test Results								Processing Test Results - Carded Yarns											
No.	Grade Name & Code	Digital Fibrograph	Staple 2.5% span	Mike	Fiber Strength Zero Gage	S.A. Non- Lint	Color Raw Stock Waste	P & C 22s or 27 tx	Strength	Elongation	Appearance Index	Imperfect's	Spin. Potential								
In	Pct	Rds	Mpsi	G/tex	Pct	Pct	No	Lbs	Pct	Pct	No	No	No	No	No	No	No				
WEST AREA--(Continued)		32s	32s	32s	32s	32s	32s	32s	32s	32s	32s	32s	32s	32s	32s	32s	32s				
CALIFORNIA																					
BRAWLEY																					
3 MID	31	35	1.12	43	4.4	89	23	16	108	36	6.5	4.6	100	70	13	11	60				
CHOWCHILLA																					
3 SLM	41	36	1.13	46	3.6	89	26	1/8"	3.1	2	5.0	130	45	6.3	4.7	100	70	16	12	76	
COALINGA																					
3 SLM	41	36	1.11	45	3.1	92	25	5.4	3.2	2	4.2	119	43	6.1	4.6	80	60	16	14	77	
DOS PALOS																					
3 SLM	41	36	1.13	48	3.8	98	25	5.6	2.2	1	2	3.7	1/31	47	6.6	4.9	110	80	9	9	84
WASCO																					
3 MID	31	35	1.09	43	4.4	95	25	5.8	2.5	1	3	4.6	1/108	35	5.6	4.1	100	70	13	11	53
WEST TEXAS																					
PECOS																					
3 MID	31	34	1.07	39	2.7	81	22	16	2.5	0	2	5.3	1/106	33	7.3	5.4	80	60	18	19	58
PECOS																					
3 MID	31	34	1.05	42	3.3	81	20	7.3	2.4	0	3	4.9	1/99	31	7.2	4.9	90	70	16	12	49

Table 4 --Cotton, American upland long staple: Quality characteristics by production areas, crop of 1973

Production Area, Classification & Sample Number			Fiber Test Results								Processing Test Results - Carded Yarns							
No	Grade	Name & C-Code	Digital Fibrograph	Mile span	2.5% Unif. span	mite Unif.	Fiber Strength	Elong- gat'n 1/8"	S.A. Non- Lint	Color Raw Stock	P & C Comber Waste	Strength	Elongation	Appearance Index	Imperfect'sns	Spin. Poten- tial		
							Gage	Gage	Gra Yel	Gra Yel	22s or 27 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx		
							In	Psi	Psi	Pct	Pct	Pct	Lbs	Lbs	Pct	Pct	No	
							32s	Rdg	G/tex	No	No	No	lbs	lbs	No	No	No	
SOUTHEAST AREA																		
GEORGIA																		
COMER																		
3	SLM	LT SP	42	34	1.10	44	4.9	80	23	6.4	3.4	3	7.8	96	100 PERCENT	120	90	
										*	17.7	114	39	6.4	4.7	120	100	5
WEST AREA																		
NEW MEXICO																		
LAS CRUCES																		
3	MID	31	36	1.14	43	2.9	96	27	6.3	3.5	1	3	8.4	130	100 PERCENT 1/	70	60	
										*	18.1	150	53	6.9	5.1	80	70	18
WEST TEXAS																		
DELL CITY																		
2	MID	31	36	1.09	43	3.4	85	25	6.6	3.1	1	3	8.6	122	80 PERCENT	100	90	
										*	18.2	143	49	6.9	5.1	120	90	11
EL PASO																		
3	SLM	41	36	1.12	44	2.8	90	28	6.4	4.2	1	2	9.2	138	90 PERCENT	70	90	
										*	16.2	156	55	7.3	5.8	80	80	6

* Comber Waste and Combed Yarn Data

1/ 100 percent selected for tests, less than 100 percent in the area

Table 5--Cotton, American Pima extra long staple: Quality characteristics by production areas, crop of 1973

Production Area, Classification		Fiber Test Results								Processing Test Results - Combed Yarns								
Sample Number		Array Length		Fiber Strength		S.A. Non- Lint		Color Raw Stock Gra Yel		Strength		Elongation		Appearance Index		Imperfect's		
No	Grade	Stple	UQL	CV	Mike Zero Gage	1/8" Gage	P & C Waste	Comber Waste	50s or 12 tx	80s or 12 tx	50s or 7 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx		
32s	32s	In	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Pct	No	No	No	No	
WEST AREA																		
ARIZONA																		
PEORIA	4	44	1.49	30	3.9	109	PIMA S-4	3.6	6.8	3.7	3	4	8.5	20.3	70	39	5.4	4.9
2																	120	110
SAFFORD	3	44	1.51	30	3.7	103	PIMA S-4	33	7.4	3.0	4	5	8.3	21.3	69	39	5.5	4.9
2																	120	120
STANFIELD	4	44	1.49	32	3.8	103	PIMA S-4	36	7.0	4.5	4	5	9.3	19.6	70	39	5.5	4.8
2																	110	110
WEST TEXAS																		
EL PASO	3	44	1.42	33	3.4	101	PIMA S-4	33	6.9	4.7	4	5	8.8	18.4	66	36	5.2	4.9
3																	120	110
																	1	1

